REMARKS

Applicants have now had an opportunity to carefully consider the Examiner's comments set forth in the Office Action of January 7, 2002. Reconsideration of the Application is requested.

The Office Action

The Examiner rejected claim 14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,373,371 to Masui in further view of U.S. Patent No. 6,049,409 to Nakaie.

The Examiner objected to claims 15-20 as being dependent upon a rejected base claim but noted that they would otherwise be allowable.

The Examiner has indicated that claims 1-13 and claim 21 are allowed.

Claims 1-21 remain in this application.

There is no motivation to combine Masui and Nakaie.

Claim 14 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Masui in further view of Nakaie. However, applicant respectfully submits Masui and Nakaie are concerned with dramatically different problems. Masui is concerned with correcting slight errors in placement of a document on a scanner platen. When a document is placed crookedly (i.e. inclined) on a platen, the resultant scanned image also is crooked. When printed or displayed on the screen, the image remains crooked, reducing its readability, and appears unseemly. Procedures for correcting documents placed crookedly on a platen are cumbersome, require multiple iterations to correct the problem, and require storing the image before taking corrective action. Masui thus teaches a method and apparatus for providing image rotation at high speed using a simplified procedure in order to overcome these problems.

In contrast, Nakaie concerns an optical scanning device in which a light beam emitted from a light source is incident on a rotary polygon mirror. The problem faced by Nakaie is that when an incident angle or a reflected angle of the light beam with respect to the reflecting surface or facet of the polygon mirror is large, the light beam reflected and deflected by the polygon mirror lands on the surface of the photoreceptor drum while depicting a locus along a curved surface, resulting in a curved locus on the surface of the photoreceptor drum. The usual methods to

correct this problem require changing the positioning of the mirrors within the scanning device such that the physical positioning of the first and second reflecting mirrors does not interrupt the related light beams or their optical paths. Such placement usually requires that the mirrors be disposed in such a way that they are greatly spaced apart, requiring a larger device for scanning. Thus, Nakaie is concerned with the physical placement of mirrors within a scanning device such that these mirrors may be placed more closely together.

The Examiner will appreciate that one faced with the problem of Nakaie, i.e. that of improving the physical layout and placement of mirrors within a scanner, will not look the Masui for a solution. Masui is concerned with rotating images after they are scanned.

Similarly, the Examiner will appreciate that one faced with the problems of Masui, i.e. finding a method for fast, simple rotation of a document placed crookedly on a platen, will not look to Nakaie for a solution. As stated above, Nakaie is concerned with the physical placement of mirrors within a scanner, i.e. with how to scan the image.

Even if the cited references may be combined, they do not teach claim 14 is distinguished.

Masui does not teach determining an estimate of first or second independent skew angle. While Masui does teach calculating the direction of correcting the deviation and the amount by which an image must be shifted (see col. 3, lines 23-28), Masui does not teach estimating an independent skew angle. Masui provides for real-time shifting of lines of the document. The Masui procedure begins with the first line of "document part" information. See col.4, lines 40-60. The start and end point coordinates of the "document part" information are stored. This first line is not shifted. Thereafter, the next line is shifted by the absolute value of the deviation from the start and end point coordinates from the first line. Subsequent lines are similarly shifted. See col. 4, line 60 – col. 5, line 35. The shifting is accomplished by changing the image memory address into which the "document part' information is loaded. See col. 5, lines 35-45. The result is that the whole page is shifted such that the rightmost edge is straightened. In this procedure, the independent skew angle is irrelevant, and there is thus no need for computing an estimate of the independent skew angle.

In contrast, the present development includes the determination of an estimate of independent skew angle because as each pixel is read, the pixel's location is calculated for all predetermined document rotation angles simultaneously. See page 7, line 13 – page 8, line 7 of the written description. This inherently means that some of the predetermined document rotation angles will be more "correct" than others. The estimate of independent skew angle thus provides a way to determine the quality of the estimate. This feature, as disclosed and claimed, is not present in Masui. It is also not present in Nakaie. Therefore, claim 14, and dependent claims 15-20 that depend on claim 14, are patentably distinguished from the teachings of the cited references, and should be allowed.

Lastly, Nakaie (col. 7, lines 23-35) is cited as teaching the feature of merging the first and second independent slew angle of claim 14. However, Nakaie at col. 7, lines 23-35, describes a light beam that is reflected onto the photoreceptor drum using a mirror such that the beam moves in the fast-scan direction. The photoreceptor drum is also moved, resulting in movement of the light beam along the slow-scan direction. The movements (i.e. of the mirror and the photoreceptor drum) are combined in order to move the light beam to form an image on the surface of the photoreceptor. This simply means that in order to produce an image on a photoreceptor drum, the laser beam must be capable of being moved in two directions (essentially along X and Y axes). It is difficult to see how moving a light beam to produce an image on a photoreceptor has any bearing on or relation to merging independent skew angles as claimed in claim 14. Merging independent skew angles, as described and claimed, is not taught by Nakaie, and as noted in the Office Action, is also not taught by Masui. Therefore, claim 14, and the remaining claims that depend from them, are patentably distinguished from the teachings of the cited references, and should be allowed.

All other cited references have been considered but are not deemed either individually or in combination to meet the teachings of the pending claims.

CONCLUSION

For the reasons detailed above, it is submitted all claims remaining in the application (Claims 1-21) are now in condition for allowance. The foregoing comments do not require unnecessary additional search or examination.

In the event the Examiner considers personal contact advantageous to the disposition of this case, he/she is hereby authorized to call Mark Svat, at Telephone Number (216) 861-5582.

Respectfully submitted,

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2/22/05
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